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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/990,238	11/21/2001	Dahai Yu	MEIP118201	1926
26389	7590	02/07/2005	EXAMINER	
CHRISTENSEN, O'CONNOR, JOHNSON, KINDNESS, PLLC			CHAWAN, SHEELA C	
1420 FIFTH AVENUE			ART UNIT	
SUITE 2800			PAPER NUMBER	
SEATTLE, WA 98101-2347			2625	

DATE MAILED: 02/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/990,238

Applicant(s)

YU ET AL.

Examiner

Sheela C Chawan

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,10,12,16 and 17 is/are rejected.
- 7) ☒ Claim(s) 3-9,11 and 13-15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3/19/02.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. The Examiner has approved drawings filed on 11/21/01.

### *Claim Rejections - 35 U.S.C. § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 10, 12, 16 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by applicant prior art Listed as "Description of prior art QUICK VISION series of vision inspection machines and QVPAK software", Page 1- 4.

As to claim 1, applicant prior discloses a method for operating a vision system to determine a set of coordinates for a plurality of edge points (fig 1A, element A1, A2 and A3) along an edge contour of an object (fig 1A, TG corresponds to object) wherein the plurality of edge points extend over a depth range greater than the depth of field of an image of the edge contour, the method comprising:

determining the coordinates for at least a latest previous edge point (fig 1A, element A2) in at least a latest previous edge point image;

automatically determining a next edge point XY trial partially on the XY location of the latest previous edge point (fig 1A, A3);

determining a desired next edge point source image (fig 1A, element TG corresponds to source image) based on the next edge point XY trial location and previously acquired data;

searching for the next edge point in the desired next edge point source image (fig 1A).

As to claim 2, applicant prior art discloses the method, wherein the previously acquired data comprises a plurality of images acquired at a plurality of corresponding focus positions and the step of determining a desired next edge point source image (fig 1A, element A1, A2 and A3, page 2, second and fourth paragraph describes about locating plurality of edge points on target object which is TG) comprises selecting the one of the plurality of images that is determined to have the best focus in the vicinity of the next edge point XY trial location.

As to claim 10, applicant prior art discloses the method, wherein the step of determining a desired next edge point source image comprises:

determining a desired next edge point focus position based on the next edge point XY trial location and the previously acquired data (fig 1A, A3 corresponds to next edge point); and

determining a desired next edge point source image based on the desired next edge point focus position (fig 1A, source image corresponds to TG).

As to claim 12, applicant prior art discloses the method, wherein when the step of searching for the next edge point in the desired next edge point source image determines the coordinates of the next edge point, the method further comprises:

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the just-determined next edge point (fig 1 A3) becomes the latest previous edge point (page 2, second and fourth paragraph describes about locating plurality of edge points on target object which is TG);

the desired next edge point image becomes the latest previous edge point image (fig 1A, page 2 fourth paragraph); and

the method iteratively continues with the step of automatically determining a next edge point XY trial location (page 1 and 2).

As to claim 16, applicant prior art discloses the method, wherein the method is employed for operating a vision system during a learn mode of operation (page 1, first paragraph).

As to claim 17, applicant prior art discloses the method, wherein the method is employed for operating a vision system during a run mode of operation (page 1, first paragraph).

### ***Allowable Subject Matter***

3. Claims 3 - 9,11, 13-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Other prior art cited***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Shimizu et al., (US. 6,816,609 B1) discloses vision measuring machine, method, and medium.

Shima et al., (US.4,494,139) discloses automatic assembly system.

Migdal et al., (US.6,205,243 B1) discloses system and method for rapid shape digitizing and adaptive mesh generation.

Epstein et al., (US.5,402,532) discloses direct display of CSG expression by use of depth buffers.

***Contact Information***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheela C Chawan whose telephone number is 703-305-4876. The examiner can normally be reached on Monday - Thursday 8 - 6.30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 703-308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sheela Chawan  
Patent Examiner  
Group Art Unit 2625  
Feb 4, 2005